### Contents

**GENERAL INFORMATION**
- Service parts identification ................................................................. 4
- Nameplate ................................................................................................... 4
- Date code .................................................................................................... 5
- Service bulletins ........................................................................................... 5
- Procedure to identify a part ......................................................................... 5

**FIXED DISPLACEMENT MOTOR**
- Order code .................................................................................................... 7
- Common parts ........................................................................................... 8-9
- Special hardware ......................................................................................... 8-13
- End cap ......................................................................................................... 14-17
- Loop flushing .............................................................................................. 16-17
- Charge pressure ........................................................................................ 18-19
- Shaft ........................................................................................................... 20-21
- Overhaul seal kit ....................................................................................... 21

**SERVICE BULLETIN**
- SB-1988-018 (dowel pin change) ................................................................. 22
- SB-1988-023 (piston improvement) ............................................................... 23
- SB-1989-020 (end cap, loop flushing, and adding adjustable cpvr) .......... 24-25
- SB-1996-018 (shaft) .................................................................................. 26
- SB-1998-007 (end cap) .............................................................................. 27-28
- SB-1999-036 (housing) ............................................................................. 29
- SB-2000-047 (loop flushing spring and spring seat) ................................. 30
- SB-2001-011 (end cap gasket material) ...................................................... 31
- SB-2002-048 (valve plate) ......................................................................... 32
- SB-2003-010 (housing) .............................................................................. 33
- SB-2005-005 (cylinder block) ................................................................. 34
- SB-2005-013 (shaft) .................................................................................. 35
The following information and procedure is used to identify the module group, item number, manufacture date, part number, and part name of the parts included in the Series 90, 100 cc motors.

The parts listed include all parts which may be used when performing either “Minor Repairs”, “Major Repairs” or “Conversions” on the Series 90, 100 cc motor.

NAMEPLATE

Each unit will have a nameplate affixed to the housing. The nameplate will include the following information.

Model Code
The Sauer-Danfoss model code completely defines the specific unit and must be used when ordering parts to service this product.

Model Number
The Sauer-Danfoss model number is used by the factory in manufacturing. On repeat orders, a complete unit can be ordered by the model number.

Serial Number
The Sauer-Danfoss serial number is used to identify the manufacture date and the unit sequence in the build. The serial number is also used to identify the units warranty time period.

The letter code indicates the location of original manufacture (assembly). “A” indicates the unit was originally assembled in Ames, Iowa, USA. “N” indicates the unit was originally assembled in Neumunster, Germany.

The first number (2 digits) indicates the year of manufacture. (”01” would indicate the unit was manufactured in 2001)

The second number (2 digits) indicates the calendar week of manufacture.

The third number (5 digits) is a sequential number used to identify a specific unit.
DATE CODE

The date code is defined as the year and week of manufacture. The same item number may list more than one part number. This indicates that there is more than one configuration for that item number. You will see that there are different date codes for the different part numbers. Find the date code of your unit from the nameplate to determine which service part number you need to order.

EXAMPLE: The service part desired is Item H10

<table>
<thead>
<tr>
<th>Order Code</th>
<th>Item</th>
<th>Date Begin</th>
<th>Date End</th>
<th>Part Number</th>
<th>Part Name</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>H10</td>
<td>89-38</td>
<td></td>
<td>8800668</td>
<td>Loop flushing spool, defeated</td>
<td>1</td>
</tr>
<tr>
<td>H10</td>
<td></td>
<td>87-02</td>
<td>89-37</td>
<td>8800021</td>
<td>Loop flushing spool, defeated (SB-1989-020)</td>
<td>1</td>
</tr>
</tbody>
</table>

All units using this order code with a date code of 87-02 and up to and including 89-37, must use part number “8800021”. All units with a date code of 89-38 and newer must use part number “8800668.”

SERVICE BULLETINS

A Service Bulletin Number (SB-____-____-) may follow the “Part Name” of the part you desire. You must read that Service Bulletin prior to ordering that part. The information contained in these Service Bulletins, as of the print date of this bulletin, are included at the end of this manual. Service Bulletins contain more detailed information such as interchangeability, what additional parts are involved, etc. It is suggested that you add additional Service Bulletins to this manual as you receive them.

PROCEDURE TO IDENTIFY A PART

General

The modular design of Series 90 units results in a simplified service parts list and part number identification procedure.

The same item numbers are used for same part names on all units within a product type. (Example: The lip seal - Item L40 has the same item number on all motors.)

A part number that has another number following it in parentheses is done to make this a world wide manual. The first number is sold in Germany. The number in parentheses is sold in the United States. (Example: 314583 (9008000-0118), customers would order 9008000-0118 if ordering the part in the United States.)

Example of a Part Identification

The nameplate on a Series 90 motor has an Order Code of 90M100 NC 0 N 8 N 0 S1 W 00 NNN 00 00 24. Use the following procedures to determine the part number of the drive shaft used on this motor.

1) Referring to the output shaft module in the Order Code (see page 7), the output shaft option for this motor is identified by the code “S1”. (90M100 NC 0 N 8 N 0 S1 W 00 NNN 00 00 24)

2) Referring to the Service Parts List, find the shaft group. Next find the order code that relates to this unit, which is “S1”. The shaft is found to be item L100 and part number 8200358.
Series\n
Not applicable

Not applicable

Not applicable

End cap

Not applicable

Not applicable

Shaft

Loop flushing

Not applicable

Special hardware features

Not applicable

Not applicable

Charge pressure setting

P100 709E
Enlarged bold type item numbers are recommended part to stock for servicing.
## COMMON PARTS

<table>
<thead>
<tr>
<th>Order Code</th>
<th>Item</th>
<th>Date Begin</th>
<th>Date End</th>
<th>Part Number</th>
<th>Part Name</th>
<th>Qty. per</th>
</tr>
</thead>
<tbody>
<tr>
<td>B10</td>
<td>88-23</td>
<td></td>
<td></td>
<td>8200561</td>
<td>Housing (SB-1988-018, 1999-036, and 2003-010)</td>
<td>1</td>
</tr>
<tr>
<td>B50</td>
<td>88-23</td>
<td></td>
<td></td>
<td>9004800-3708</td>
<td>Pin (SB-1988-018)</td>
<td>2</td>
</tr>
<tr>
<td>B50</td>
<td>87-07</td>
<td>88-22</td>
<td></td>
<td>9004800-3116</td>
<td>Pin</td>
<td>2</td>
</tr>
<tr>
<td>B80</td>
<td>87-07</td>
<td></td>
<td></td>
<td>664524 (9005110-9000)</td>
<td>Plug assembly</td>
<td>1</td>
</tr>
<tr>
<td>B80A</td>
<td>87-07</td>
<td></td>
<td></td>
<td>001156 (9004201-7500)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td>B81</td>
<td>87-07</td>
<td></td>
<td></td>
<td>664524 (9005110-9000)</td>
<td>Plug assembly</td>
<td>1</td>
</tr>
<tr>
<td>B81A</td>
<td>87-07</td>
<td></td>
<td></td>
<td>001156 (9004201-7500)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td>C13</td>
<td>87-07</td>
<td></td>
<td></td>
<td>8200567</td>
<td>Spring seat</td>
<td>1</td>
</tr>
<tr>
<td>C14</td>
<td>87-07</td>
<td></td>
<td></td>
<td>734590 (8020210)</td>
<td>Cylinder block spring</td>
<td>1</td>
</tr>
<tr>
<td>C15</td>
<td>87-07</td>
<td></td>
<td></td>
<td>672881 (8200028)</td>
<td>Spring retainer</td>
<td>1</td>
</tr>
<tr>
<td>C16</td>
<td>87-07</td>
<td></td>
<td></td>
<td>9006275-0026</td>
<td>Retaining ring</td>
<td>1</td>
</tr>
<tr>
<td>C30</td>
<td>87-07</td>
<td></td>
<td></td>
<td>735498</td>
<td>Slipper guide</td>
<td>1</td>
</tr>
<tr>
<td>C40</td>
<td>87-07</td>
<td></td>
<td></td>
<td>683607</td>
<td>Slipper guide retainer</td>
<td>1</td>
</tr>
<tr>
<td>C45</td>
<td>87-07</td>
<td></td>
<td></td>
<td>505368</td>
<td>Slipper guide retainer spacer</td>
<td>1</td>
</tr>
<tr>
<td>C50</td>
<td>87-07</td>
<td></td>
<td></td>
<td>8200237</td>
<td>Hold down tube</td>
<td>1</td>
</tr>
<tr>
<td>C80</td>
<td>88-23</td>
<td></td>
<td></td>
<td>324137</td>
<td>Valve plate (SB-2002-048)</td>
<td>1</td>
</tr>
<tr>
<td>C80</td>
<td>87-07</td>
<td>88-22</td>
<td></td>
<td>8200103</td>
<td>Valve plate (SB-1988-018)</td>
<td>1</td>
</tr>
<tr>
<td>D50</td>
<td>88-23</td>
<td></td>
<td></td>
<td>505350</td>
<td>Thrust plate (SB-1988-0018)</td>
<td>1</td>
</tr>
<tr>
<td>G30</td>
<td>87-07</td>
<td></td>
<td></td>
<td>8200511</td>
<td>End cap gasket (SB-2001-011)</td>
<td>1</td>
</tr>
<tr>
<td>G90</td>
<td>04-15</td>
<td>04-17</td>
<td></td>
<td>675918 (9007210-1217)</td>
<td>Screw (SB-2003-010)</td>
<td>6</td>
</tr>
<tr>
<td>G90</td>
<td>87-07</td>
<td>04-14</td>
<td></td>
<td>675918 (9007210-1217)</td>
<td>Screw (SB-2003-010)</td>
<td>4</td>
</tr>
<tr>
<td>G95</td>
<td>87-07</td>
<td>04-14</td>
<td></td>
<td>675900 (9007210-1209)</td>
<td>Screw (SB-2003-010)</td>
<td>2</td>
</tr>
<tr>
<td>G96</td>
<td>87-07</td>
<td></td>
<td></td>
<td>701474 (9007210-1017)</td>
<td>Screw</td>
<td>1</td>
</tr>
<tr>
<td>L10</td>
<td>87-07</td>
<td></td>
<td></td>
<td>5000506</td>
<td>Roller bering</td>
<td>1</td>
</tr>
<tr>
<td>L20</td>
<td>87-07</td>
<td></td>
<td></td>
<td>9006300-0175</td>
<td>Retaining ring</td>
<td>1</td>
</tr>
<tr>
<td>L25</td>
<td>87-07</td>
<td></td>
<td></td>
<td>8200309</td>
<td>Seal assembly</td>
<td>1</td>
</tr>
<tr>
<td>L40</td>
<td>87-07</td>
<td></td>
<td></td>
<td>9008000-0114</td>
<td>Lip seal</td>
<td>1</td>
</tr>
<tr>
<td>L50</td>
<td>87-07</td>
<td></td>
<td></td>
<td>327627 (9004104-1540)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td>L60</td>
<td>87-07</td>
<td></td>
<td></td>
<td>516768</td>
<td>Retainer plate</td>
<td>1</td>
</tr>
<tr>
<td>L70</td>
<td>87-07</td>
<td></td>
<td></td>
<td>041160 (9007314-0605)</td>
<td>Screw</td>
<td>4</td>
</tr>
</tbody>
</table>

### SPECIAL HARDWARE

<table>
<thead>
<tr>
<th>CAA</th>
<th>S07</th>
<th>94-14</th>
<th>8510370</th>
<th>Cylinder block kit, w/o speed ring (SB-2005-005)</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>C05</td>
<td>94-14</td>
<td></td>
<td>8200570</td>
<td>Cylinder block assembly w/o speed ring (SB-2005-005)</td>
<td>1</td>
</tr>
<tr>
<td>C20</td>
<td>94-14</td>
<td></td>
<td>8200031</td>
<td>Piston assembly, hollow (SB-1988-023)</td>
<td>9</td>
</tr>
<tr>
<td>B83</td>
<td>94-14</td>
<td></td>
<td>515965</td>
<td>Plug assembly (SB-1988-018)</td>
<td>1</td>
</tr>
<tr>
<td>B83A</td>
<td>94-14</td>
<td></td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td>EAA</td>
<td>S07</td>
<td>94-14</td>
<td>8510395</td>
<td>Cylinder block kit, w/speed ring (SB-2005-005)</td>
<td>1</td>
</tr>
<tr>
<td>C05</td>
<td>94-14</td>
<td></td>
<td>8200574</td>
<td>Cylinder block assembly w/speed ring (SB-2005-005)</td>
<td>1</td>
</tr>
<tr>
<td>C20</td>
<td>94-14</td>
<td></td>
<td>364000</td>
<td>Piston assembly, welded (SB-1988-023)</td>
<td>9</td>
</tr>
<tr>
<td>B83</td>
<td>94-14</td>
<td></td>
<td>KPPG12508</td>
<td>Speed sensor</td>
<td>1</td>
</tr>
<tr>
<td>B83A</td>
<td>94-14</td>
<td></td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td>EAF</td>
<td>S07</td>
<td>98-02</td>
<td>8510395</td>
<td>Cylinder block kit, w/speed ring (SB-2005-005)</td>
<td>1</td>
</tr>
<tr>
<td>C05</td>
<td>98-02</td>
<td></td>
<td>8200574</td>
<td>Cylinder block assembly w/speed ring (SB-2005-005)</td>
<td>1</td>
</tr>
<tr>
<td>C20</td>
<td>98-02</td>
<td></td>
<td>364000</td>
<td>Piston assembly, welded (SB-1988-023)</td>
<td>9</td>
</tr>
<tr>
<td>B83</td>
<td>98-02</td>
<td></td>
<td>KPPG13808</td>
<td>Speed sensor</td>
<td>1</td>
</tr>
<tr>
<td>B83A</td>
<td>98-02</td>
<td></td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>1</td>
</tr>
</tbody>
</table>
Enlarged **bold** type item numbers are recommended part to stock for servicing.
## COMMON PARTS

<table>
<thead>
<tr>
<th>Order Code</th>
<th>Item</th>
<th>Date Begin</th>
<th>Date End</th>
<th>Part Number</th>
<th>Part Name</th>
<th>Qty. per Model/Kit</th>
</tr>
</thead>
<tbody>
<tr>
<td>EAH</td>
<td>S07</td>
<td>06-12</td>
<td></td>
<td>8510395</td>
<td>Cylinder block kit, w/speed ring</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>C05</td>
<td>06-12</td>
<td></td>
<td>8200574</td>
<td>Cylinder block assembly w/speed ring</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>C20</td>
<td>06-12</td>
<td></td>
<td>364000</td>
<td>Piston assembly, welded (SB-1988-023)</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>B83</td>
<td>06-12</td>
<td></td>
<td>KPPG13808</td>
<td>Speed sensor</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>B83A</td>
<td>06-12</td>
<td></td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td>EAK</td>
<td>S07</td>
<td>06-12</td>
<td></td>
<td>8510395</td>
<td>Cylinder block kit, w/speed ring</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>C05</td>
<td>06-12</td>
<td></td>
<td>8200574</td>
<td>Cylinder block assembly w/speed ring</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>C20</td>
<td>06-12</td>
<td></td>
<td>364000</td>
<td>Piston assembly, welded (SB-1988-023)</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>B83</td>
<td>06-12</td>
<td></td>
<td>10105722</td>
<td>Speed sensor</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>B83A</td>
<td>06-12</td>
<td></td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td>EBA</td>
<td>S07</td>
<td>94-14</td>
<td></td>
<td>8510395</td>
<td>Cylinder block kit, w/speed ring (SB-2005-005)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>C05</td>
<td>94-14</td>
<td></td>
<td>8200574</td>
<td>Cylinder block assembly w/speed ring (SB-2005-005)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>C20</td>
<td>94-14</td>
<td></td>
<td>364000</td>
<td>Piston assembly, welded (SB-1988-023)</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>B83</td>
<td>94-14</td>
<td></td>
<td>KPPG13408</td>
<td>Speed sensor</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>B83A</td>
<td>94-14</td>
<td></td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td>EBB</td>
<td>S07</td>
<td>94-23</td>
<td></td>
<td>8510395</td>
<td>Cylinder block kit, w/speed ring (SB-2005-005)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>C05</td>
<td>94-23</td>
<td></td>
<td>8200574</td>
<td>Cylinder block assembly w/speed ring (SB-2005-005)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>C20</td>
<td>94-23</td>
<td></td>
<td>364000</td>
<td>Piston assembly, welded (SB-1988-023)</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>B83</td>
<td>94-23</td>
<td></td>
<td>KPPG14408</td>
<td>Speed sensor</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>B83A</td>
<td>94-23</td>
<td></td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td>EEA</td>
<td>S07</td>
<td>94-36</td>
<td></td>
<td>8510395</td>
<td>Cylinder block kit, w/speed ring (SB-2005-005)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>C05</td>
<td>94-36</td>
<td></td>
<td>8200574</td>
<td>Cylinder block assembly w/speed ring (SB-2005-005)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>C20</td>
<td>94-36</td>
<td></td>
<td>364000</td>
<td>Piston assembly, welded (SB-1988-023)</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>B83</td>
<td>94-36</td>
<td></td>
<td>515965 (9005110-5600)</td>
<td>Plug assembly</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>B83A</td>
<td>94-36</td>
<td></td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td>EFA</td>
<td>S07</td>
<td>94-36</td>
<td></td>
<td>8510395</td>
<td>Cylinder block kit, w/speed ring (SB-2005-005)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>C05</td>
<td>94-36</td>
<td></td>
<td>8200574</td>
<td>Cylinder block assembly w/speed ring (SB-2005-005)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>C20</td>
<td>94-36</td>
<td></td>
<td>364000</td>
<td>Piston assembly, welded (SB-1988-023)</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>B83</td>
<td>94-36</td>
<td></td>
<td>KPPG136</td>
<td>Speed sensor</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>B83A</td>
<td>94-36</td>
<td></td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td>EFB</td>
<td>S07</td>
<td>95-28</td>
<td></td>
<td>8510395</td>
<td>Cylinder block kit, w/speed ring (SB-2005-005)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>C05</td>
<td>95-28</td>
<td></td>
<td>8200574</td>
<td>Cylinder block assembly w/speed ring (SB-2005-005)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>C20</td>
<td>95-28</td>
<td></td>
<td>364000</td>
<td>Piston assembly, welded (SB-1988-023)</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>B83</td>
<td>95-28</td>
<td></td>
<td>KPPG136</td>
<td>Speed sensor</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>B83A</td>
<td>95-28</td>
<td></td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td>EFJ</td>
<td>S07</td>
<td>99-40</td>
<td></td>
<td>8510395</td>
<td>Cylinder block kit, w/speed ring (SB-2005-005)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>C05</td>
<td>99-40</td>
<td></td>
<td>8200574</td>
<td>Cylinder block assembly w/speed ring (SB-2005-005)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>C20</td>
<td>99-40</td>
<td></td>
<td>364000</td>
<td>Piston assembly, welded (SB-1988-023)</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>B83</td>
<td>99-40</td>
<td></td>
<td>KPPG176</td>
<td>Speed sensor</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>B83A</td>
<td>99-40</td>
<td></td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>1</td>
</tr>
</tbody>
</table>
Fixed displacement motor

Enlarged **bold** type item numbers are recommended part to stock for servicing.
## SPECIAL HARDWARE

<table>
<thead>
<tr>
<th>Order Code</th>
<th>Date Begin</th>
<th>Date End</th>
<th>Part Number</th>
<th>Part Name</th>
<th>Qty. per Model/Kit</th>
</tr>
</thead>
<tbody>
<tr>
<td>EGH</td>
<td>05-16</td>
<td>05-16</td>
<td>8510395</td>
<td>Cylinder block kit, w/speed ring (SB-2005-005)</td>
<td>1</td>
</tr>
<tr>
<td>C05</td>
<td>05-16</td>
<td>05-16</td>
<td>8200574</td>
<td>Cylinder block assembly w/speed ring (SB-2005-005)</td>
<td>1</td>
</tr>
<tr>
<td>C20</td>
<td>05-16</td>
<td>05-16</td>
<td>364000</td>
<td>Piston assembly, welded (SB-1988-023)</td>
<td>9</td>
</tr>
<tr>
<td>B83</td>
<td>05-16</td>
<td>05-16</td>
<td>KPPG13703</td>
<td>Speed sensor</td>
<td>1</td>
</tr>
<tr>
<td>B83A</td>
<td>05-16</td>
<td>05-16</td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td>EHD</td>
<td>06-32</td>
<td>06-32</td>
<td>8510395</td>
<td>Cylinder block kit, w/speed ring (SB-2005-005)</td>
<td>1</td>
</tr>
<tr>
<td>C05</td>
<td>06-32</td>
<td>06-32</td>
<td>8200574</td>
<td>Cylinder block assembly w/speed ring (SB-2005-005)</td>
<td>1</td>
</tr>
<tr>
<td>C20</td>
<td>06-32</td>
<td>06-32</td>
<td>364000</td>
<td>Piston assembly, welded (SB-1988-023)</td>
<td>9</td>
</tr>
<tr>
<td>B83</td>
<td>06-32</td>
<td>06-32</td>
<td>KPPG16408</td>
<td>Speed sensor</td>
<td>1</td>
</tr>
<tr>
<td>B83A</td>
<td>06-32</td>
<td>06-32</td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td>JAF</td>
<td>06-12</td>
<td>06-12</td>
<td>8510370</td>
<td>Cylinder block kit, w/o speed ring (SB-2005-005)</td>
<td>1</td>
</tr>
<tr>
<td>C05</td>
<td>06-12</td>
<td>06-12</td>
<td>8200570</td>
<td>Cylinder block assembly, w/o speed ring (SB-2005-005)</td>
<td>1</td>
</tr>
<tr>
<td>C20</td>
<td>06-12</td>
<td>06-12</td>
<td>364000</td>
<td>Piston assembly, w/o speed ring (SB-1988-023)</td>
<td>9</td>
</tr>
<tr>
<td>B83</td>
<td>06-12</td>
<td>06-12</td>
<td>515965 (9005110-5600)</td>
<td>Plug assembly</td>
<td>1</td>
</tr>
<tr>
<td>B83A</td>
<td>06-12</td>
<td>06-12</td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td>JAH</td>
<td>06-12</td>
<td>06-12</td>
<td>8510370</td>
<td>Cylinder block kit, w/o speed ring (SB-2005-005)</td>
<td>1</td>
</tr>
<tr>
<td>C05</td>
<td>06-12</td>
<td>06-12</td>
<td>8200570</td>
<td>Cylinder block assembly, w/o speed ring (SB-2005-005)</td>
<td>1</td>
</tr>
<tr>
<td>C20</td>
<td>06-12</td>
<td>06-12</td>
<td>364000</td>
<td>Piston assembly, w/o speed ring (SB-1988-023)</td>
<td>9</td>
</tr>
<tr>
<td>B83</td>
<td>06-12</td>
<td>06-12</td>
<td>515965 (9005110-5600)</td>
<td>Plug assembly</td>
<td>1</td>
</tr>
<tr>
<td>B83A</td>
<td>06-12</td>
<td>06-12</td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td>LAB</td>
<td>05-21</td>
<td>05-21</td>
<td>8510395</td>
<td>Cylinder block kit, w/speed ring (SB-2005-005)</td>
<td>1</td>
</tr>
<tr>
<td>C05</td>
<td>05-21</td>
<td>05-21</td>
<td>8200574</td>
<td>Cylinder block assembly w/speed ring (SB-2005-005)</td>
<td>1</td>
</tr>
<tr>
<td>C20</td>
<td>05-21</td>
<td>05-21</td>
<td>364000</td>
<td>Piston assembly, w/speed ring (SB-1988-023)</td>
<td>9</td>
</tr>
<tr>
<td>B83</td>
<td>05-21</td>
<td>05-21</td>
<td>KPPG14408</td>
<td>Speed sensor</td>
<td>1</td>
</tr>
<tr>
<td>B83A</td>
<td>05-21</td>
<td>05-21</td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td>LAC</td>
<td>05-21</td>
<td>05-21</td>
<td>8510395</td>
<td>Cylinder block kit, w/speed ring (SB-2005-005)</td>
<td>1</td>
</tr>
<tr>
<td>C05</td>
<td>05-21</td>
<td>05-21</td>
<td>8200574</td>
<td>Cylinder block assembly w/speed ring (SB-2005-005)</td>
<td>1</td>
</tr>
<tr>
<td>C20</td>
<td>05-21</td>
<td>05-21</td>
<td>364000</td>
<td>Piston assembly, w/speed ring (SB-1988-023)</td>
<td>9</td>
</tr>
<tr>
<td>B83</td>
<td>05-21</td>
<td>05-21</td>
<td>515965 (9005110-5600)</td>
<td>Plug assembly</td>
<td>1</td>
</tr>
<tr>
<td>B83A</td>
<td>05-21</td>
<td>05-21</td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td>NNN</td>
<td>87-02</td>
<td>87-02</td>
<td>8510370</td>
<td>Cylinder block kit, w/o speed ring (SB-2005-005)</td>
<td>1</td>
</tr>
<tr>
<td>C05</td>
<td>87-02</td>
<td>87-02</td>
<td>8200570</td>
<td>Cylinder block assembly, w/o speed ring (SB-2005-005)</td>
<td>1</td>
</tr>
<tr>
<td>C20</td>
<td>94-36</td>
<td>94-36</td>
<td>364000</td>
<td>Piston assembly, w/o speed ring (SB-1988-023)</td>
<td>9</td>
</tr>
<tr>
<td>B83</td>
<td>94-36</td>
<td>94-36</td>
<td>515965 (9005110-5600)</td>
<td>Plug assembly</td>
<td>1</td>
</tr>
<tr>
<td>B83A</td>
<td>94-36</td>
<td>94-36</td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>1</td>
</tr>
</tbody>
</table>
Twin port end cap

Axial port end cap

Enlarged bold type item numbers are recommended part to stock for servicing.
### END CAP

<table>
<thead>
<tr>
<th>Order Code</th>
<th>Item</th>
<th>Date Begin</th>
<th>Date End</th>
<th>Part Number</th>
<th>Part Name</th>
<th>Qty. per Model/Kit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>G04</td>
<td>90-20</td>
<td></td>
<td>8200408</td>
<td>End cap assy., twin (SB-1988-018, 1989-020,1998-007)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>G20</td>
<td>87-02</td>
<td></td>
<td>8700030</td>
<td>Journal bearing</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>G50</td>
<td>87-02</td>
<td></td>
<td>046151 (9005100-5600)</td>
<td>Plug assembly</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>G50A</td>
<td>87-02</td>
<td></td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>G51</td>
<td>87-02</td>
<td></td>
<td>046151 (9005100-5600)</td>
<td>Plug assembly</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>G51A</td>
<td>87-02</td>
<td></td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>G63</td>
<td>87-02</td>
<td></td>
<td>8700074</td>
<td>Split clamp (code 61 hose)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>G70</td>
<td>87-02</td>
<td></td>
<td>515965 (9005110-5600)</td>
<td>Plug assembly</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>G70A</td>
<td>87-02</td>
<td></td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>G04</td>
<td>90-20</td>
<td></td>
<td>8200409</td>
<td>End cap assy., axial (SB-1988-018, 1989-020,1998-007)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>G20</td>
<td>87-02</td>
<td></td>
<td>8700030</td>
<td>Journal bearing</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>G50</td>
<td>87-02</td>
<td></td>
<td>046151 (9005100-5600)</td>
<td>Plug assembly</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>G50A</td>
<td>87-02</td>
<td></td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>G51</td>
<td>87-02</td>
<td></td>
<td>046151 (9005100-5600)</td>
<td>Plug assembly</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>G51A</td>
<td>87-02</td>
<td></td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>G63</td>
<td>87-02</td>
<td></td>
<td>8700074</td>
<td>Split clamp (code 61 hose)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>G70</td>
<td>87-02</td>
<td></td>
<td>515965 (9005110-5600)</td>
<td>Plug assembly</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>G70A</td>
<td>87-02</td>
<td></td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>G04</td>
<td>90-20</td>
<td></td>
<td>8200409</td>
<td>End cap assy., axial (SB-1988-018, 1989-020,1998-007)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>G20</td>
<td>87-02</td>
<td></td>
<td>8700030</td>
<td>Journal bearing</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>G50</td>
<td>87-02</td>
<td></td>
<td>046151 (9005100-5600)</td>
<td>Plug assembly</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>G50A</td>
<td>87-02</td>
<td></td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>G51</td>
<td>87-02</td>
<td></td>
<td>046151 (9005100-5600)</td>
<td>Plug assembly</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>G51A</td>
<td>87-02</td>
<td></td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>G70</td>
<td>87-02</td>
<td></td>
<td>515965 (9005110-5600)</td>
<td>Plug assembly</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>G70A</td>
<td>87-02</td>
<td></td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>G04</td>
<td>90-20</td>
<td></td>
<td>8200408</td>
<td>End cap assy., twin (SB-1988-018, 1989-020,1998-007)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>G20</td>
<td>87-02</td>
<td></td>
<td>8700030</td>
<td>Journal bearing</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>G50</td>
<td>87-02</td>
<td></td>
<td>046151 (9005100-5600)</td>
<td>Plug assembly</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>G50A</td>
<td>87-02</td>
<td></td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>G51</td>
<td>87-02</td>
<td></td>
<td>046151 (9005100-5600)</td>
<td>Plug assembly</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>G51A</td>
<td>87-02</td>
<td></td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>G70</td>
<td>87-02</td>
<td></td>
<td>515965 (9005110-5600)</td>
<td>Plug assembly</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>G70A</td>
<td>87-02</td>
<td></td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>1</td>
</tr>
</tbody>
</table>
Fixed displacement motor

Enlarged bold type item numbers are recommended part to stock for servicing.
### END CAP

<table>
<thead>
<tr>
<th>Order Code</th>
<th>Item</th>
<th>Date Begin</th>
<th>Date End</th>
<th>Part Number</th>
<th>Part Name</th>
<th>Qty. per</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>G04</td>
<td>95-17</td>
<td></td>
<td>8200407</td>
<td>End cap assembly, twin metric ports (SB-1998-007)</td>
<td>1</td>
</tr>
<tr>
<td>E</td>
<td>G20</td>
<td>95-17</td>
<td></td>
<td>8700030</td>
<td>Journal bearing</td>
<td>1</td>
</tr>
<tr>
<td>G</td>
<td>G04</td>
<td>98-02</td>
<td></td>
<td>8200383</td>
<td>End cap assembly, twin metric ports</td>
<td>1</td>
</tr>
<tr>
<td>G</td>
<td>G20</td>
<td>98-02</td>
<td></td>
<td>8700030</td>
<td>Journal bearing</td>
<td>1</td>
</tr>
<tr>
<td>G</td>
<td>G50</td>
<td>98-02</td>
<td></td>
<td>8700127</td>
<td>Diagnostic recepticle</td>
<td>1</td>
</tr>
<tr>
<td>G</td>
<td>G50A</td>
<td>98-02</td>
<td></td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td>G</td>
<td>G51</td>
<td>98-02</td>
<td></td>
<td>8700127</td>
<td>Diagnostic recepticle</td>
<td>1</td>
</tr>
<tr>
<td>G</td>
<td>G51A</td>
<td>98-02</td>
<td></td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td>G</td>
<td>G70</td>
<td>98-02</td>
<td></td>
<td>515965 (9005110-5600)</td>
<td>Plug assembly</td>
<td>1</td>
</tr>
<tr>
<td>G</td>
<td>G70A</td>
<td>98-02</td>
<td></td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td>G</td>
<td>G80</td>
<td>98-02</td>
<td></td>
<td>664524 (9005110-9000)</td>
<td>Plug assembly</td>
<td>1</td>
</tr>
<tr>
<td>G</td>
<td>G80A</td>
<td>98-02</td>
<td></td>
<td>001156 (9004201-7500)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td>G</td>
<td>G81</td>
<td>98-02</td>
<td></td>
<td>664524 (9005110-9000)</td>
<td>Plug assembly</td>
<td>1</td>
</tr>
<tr>
<td>G</td>
<td>G81A</td>
<td>98-02</td>
<td></td>
<td>001156 (9004201-7500)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td>G</td>
<td>G87</td>
<td>98-02</td>
<td></td>
<td>8700127</td>
<td>Dust cover</td>
<td>1</td>
</tr>
<tr>
<td>G</td>
<td>G88</td>
<td>98-02</td>
<td></td>
<td>8700128</td>
<td>Dust cover</td>
<td>1</td>
</tr>
<tr>
<td>G</td>
<td>G90</td>
<td>98-02</td>
<td></td>
<td>515965 (9005110-5600)</td>
<td>Plug assembly</td>
<td>1</td>
</tr>
<tr>
<td>G</td>
<td>G90A</td>
<td>98-02</td>
<td></td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>1</td>
</tr>
</tbody>
</table>

### LOOP FLUSHING

<table>
<thead>
<tr>
<th>Order Code</th>
<th>Item</th>
<th>Date Begin</th>
<th>Date End</th>
<th>Part Number</th>
<th>Part Name</th>
<th>Qty. per</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>H10</td>
<td>89-38</td>
<td></td>
<td>8800668</td>
<td>Loop flushing spool, defeated</td>
<td>1</td>
</tr>
<tr>
<td>N</td>
<td>H10</td>
<td>89-38</td>
<td>89-37</td>
<td>308486 (8800021)</td>
<td>Loop flushing spool, defeated (SB-1989-020)</td>
<td>1</td>
</tr>
<tr>
<td>N</td>
<td>H50</td>
<td>87-07</td>
<td></td>
<td>046151 (9005110-5600)</td>
<td>Plug assembly</td>
<td>2</td>
</tr>
<tr>
<td>N</td>
<td>H50A</td>
<td>87-07</td>
<td></td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>2</td>
</tr>
<tr>
<td>W</td>
<td>H10</td>
<td>89-38</td>
<td>89-37</td>
<td>8800550</td>
<td>Shuttle spool</td>
<td>1</td>
</tr>
<tr>
<td>W</td>
<td>H10</td>
<td>89-38</td>
<td>89-37</td>
<td>674473 (8800069)</td>
<td>Loop flushing spool (SB-1989-020)</td>
<td>1</td>
</tr>
<tr>
<td>W</td>
<td>H20</td>
<td>87-07</td>
<td>89-37</td>
<td>674481 (8800265)</td>
<td>Spring guide (SB-1989-020)</td>
<td>2</td>
</tr>
<tr>
<td>W</td>
<td>H30</td>
<td>89-38</td>
<td></td>
<td>513596</td>
<td>Spring guide assembly (SB-2000-047)</td>
<td>2</td>
</tr>
<tr>
<td>W</td>
<td>H30</td>
<td>87-07</td>
<td>89-37</td>
<td>8800067</td>
<td>Spring (SB-1989-020)</td>
<td>2</td>
</tr>
<tr>
<td>W</td>
<td>H50</td>
<td>89-38</td>
<td></td>
<td>518016</td>
<td>Plug assembly</td>
<td>2</td>
</tr>
<tr>
<td>W</td>
<td>H50</td>
<td>87-07</td>
<td>89-37</td>
<td>674507 (9005475-0069)</td>
<td>Plug assembly (SB-1989-020)</td>
<td>2</td>
</tr>
<tr>
<td>W</td>
<td>H50A</td>
<td>87-07</td>
<td></td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>2</td>
</tr>
</tbody>
</table>
Series 90 100 cc Axial Piston Motor
Parts Manual
Fixed displacement motor

- K50
- K62
- K64
- K66

K10
K10A
K000
K95A
K

Obsolete

Enlarged bold type item numbers are recommended part to stock for servicing.
## Charge Pressure Setting

<table>
<thead>
<tr>
<th>Order Code</th>
<th>Item</th>
<th>Date Begin</th>
<th>Date End</th>
<th>Part Number</th>
<th>Part Name</th>
<th>Qty. per Model/Kit</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>K10</td>
<td>89-44</td>
<td>89-44</td>
<td>001537 (9005100-8700)</td>
<td>Plug assembly</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>K10</td>
<td>87-02</td>
<td>89-43</td>
<td>001529 (9005100-7500)</td>
<td>Plug assembly</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>K10A</td>
<td>89-44</td>
<td>89-43</td>
<td>001149 (9004201-6200)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>K10A</td>
<td>87-02</td>
<td>89-43</td>
<td>001131 (9004201-5000)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td>20-24</td>
<td>K000</td>
<td>89-44</td>
<td>89-44</td>
<td>8510012</td>
<td>Adjustable charge relief valve kit</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>K50</td>
<td>89-44</td>
<td>89-43</td>
<td>001149 (9004201-6200)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>K50</td>
<td>87-02</td>
<td>89-43</td>
<td>001131 (9004201-5000)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>K62</td>
<td>87-02</td>
<td>89-43</td>
<td>314716 (8800259-0001)</td>
<td>Shim, 010&quot; (SB-1989-020)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>K62</td>
<td>87-02</td>
<td>89-43</td>
<td>314724 (8800259-0002)</td>
<td>Shim, 020&quot; (SB-1989-020)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>K62</td>
<td>87-02</td>
<td>89-43</td>
<td>314732 (8800259-0003)</td>
<td>Shim, 030&quot; (SB-1989-020)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>K62</td>
<td>87-02</td>
<td>89-43</td>
<td>314740 (8800259-0004)</td>
<td>Shim, 040&quot; (SB-1989-020)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>K64</td>
<td>87-02</td>
<td>89-43</td>
<td>8800146</td>
<td>Spring (SB-1989-020)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>K66</td>
<td>87-02</td>
<td>89-43</td>
<td>674465 (8800238)</td>
<td>Poppet (SB-1989-020)</td>
<td>1</td>
</tr>
<tr>
<td>A0</td>
<td>K</td>
<td>89-44</td>
<td>89-44</td>
<td>8510253</td>
<td>Cartridge CPRV kit, 13 bar, 11 L/min</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>K50</td>
<td>89-44</td>
<td>89-44</td>
<td>001149 (9004201-6200)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>K95A</td>
<td>89-44</td>
<td>89-44</td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>2</td>
</tr>
<tr>
<td>A3</td>
<td>K</td>
<td>89-44</td>
<td>89-44</td>
<td>8510256</td>
<td>Cartridge CPRV kit, 13 bar, 16 L/min</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>K50</td>
<td>89-44</td>
<td>89-44</td>
<td>001149 (9004201-6200)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>K95A</td>
<td>89-44</td>
<td>89-44</td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>2</td>
</tr>
<tr>
<td>E4</td>
<td>K</td>
<td>89-44</td>
<td>89-44</td>
<td>8510261</td>
<td>Cartridge CPRV kit, 16 bar, 4 L/min</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>K50</td>
<td>89-44</td>
<td>89-44</td>
<td>001149 (9004201-6200)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>K95A</td>
<td>89-44</td>
<td>89-44</td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>2</td>
</tr>
<tr>
<td>E6</td>
<td>K</td>
<td>89-44</td>
<td>89-44</td>
<td>8510252</td>
<td>Cartridge CPRV kit, 16 bar, 7 L/min</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>K50</td>
<td>89-44</td>
<td>89-44</td>
<td>001149 (9004201-6200)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>K95A</td>
<td>89-44</td>
<td>89-44</td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>2</td>
</tr>
<tr>
<td>F0</td>
<td>K</td>
<td>89-44</td>
<td>89-44</td>
<td>8510259</td>
<td>Cartridge CPRV kit, 16 bar, 11 L/min</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>K50</td>
<td>89-44</td>
<td>89-44</td>
<td>001149 (9004201-6200)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>K95A</td>
<td>89-44</td>
<td>89-44</td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>2</td>
</tr>
<tr>
<td>F3</td>
<td>K</td>
<td>89-44</td>
<td>89-44</td>
<td>8510262</td>
<td>Cartridge CPRV kit, 16 bar, 16 L/min</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>K50</td>
<td>89-44</td>
<td>89-44</td>
<td>001149 (9004201-6200)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>K95A</td>
<td>89-44</td>
<td>89-44</td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>2</td>
</tr>
<tr>
<td>G0</td>
<td>K</td>
<td>89-44</td>
<td>89-44</td>
<td>8510260</td>
<td>Cartridge CPRV kit, 16 bar, 22 L/min</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>K50</td>
<td>89-44</td>
<td>89-44</td>
<td>001149 (9004201-6200)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>K95A</td>
<td>89-44</td>
<td>89-44</td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>2</td>
</tr>
<tr>
<td>G3</td>
<td>K</td>
<td>89-44</td>
<td>89-44</td>
<td>8510263</td>
<td>Cartridge CPRV kit, 16 bar, 27 L/min</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>K50</td>
<td>89-44</td>
<td>89-44</td>
<td>001149 (9004201-6200)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>K95A</td>
<td>89-44</td>
<td>89-44</td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>2</td>
</tr>
</tbody>
</table>

**Series 90 100 cc Axial Piston Motor**

**Parts Manual**

**Fixed Displacement Motor**
Enlarged **bold** type item numbers are recommended part to stock for servicing.
# SHAFT

<table>
<thead>
<tr>
<th>Order Code</th>
<th>Item</th>
<th>Date Begin</th>
<th>Date End</th>
<th>Part Number</th>
<th>Part Name</th>
<th>Qty. per Model/Kit</th>
</tr>
</thead>
<tbody>
<tr>
<td>C6</td>
<td>L100</td>
<td>87-07</td>
<td></td>
<td>512024</td>
<td>Shaft, 21 tooth spline, 16/32</td>
<td>1</td>
</tr>
<tr>
<td>C7</td>
<td>L100</td>
<td>87-07</td>
<td></td>
<td>8200591</td>
<td>Shaft, 23 tooth spline, 16/32 (SB-1996-018 &amp; 2005-013)</td>
<td>1</td>
</tr>
<tr>
<td>F1</td>
<td>L100</td>
<td>87-07</td>
<td></td>
<td>8200597</td>
<td>Shaft, 13 tooth spline, 8/16 (SB-1996-018 &amp; 2005-013)</td>
<td>1</td>
</tr>
<tr>
<td>F2</td>
<td>L100</td>
<td>87-07</td>
<td></td>
<td>8200353</td>
<td>Shaft, 13 tooth spline, 8/16, special (SB-1996-018)</td>
<td>1</td>
</tr>
<tr>
<td>G7</td>
<td>L100</td>
<td>05-21</td>
<td></td>
<td>8200591</td>
<td>Shaft, 23 tooth spline, 16/32</td>
<td>1</td>
</tr>
<tr>
<td>K3</td>
<td>L100</td>
<td>87-07</td>
<td></td>
<td>8200354</td>
<td>Shaft, straight key (SB-1996-018)</td>
<td>1</td>
</tr>
<tr>
<td>L80</td>
<td></td>
<td>87-07</td>
<td></td>
<td>331868 (9003261-3724)</td>
<td>Key, .375 x 1.5</td>
<td>1</td>
</tr>
<tr>
<td>S1</td>
<td>L100</td>
<td>87-07</td>
<td></td>
<td>8200358</td>
<td>Shaft, 14 tooth spline, 12/24 (SB-1996-018)</td>
<td>1</td>
</tr>
<tr>
<td>S5</td>
<td>L100</td>
<td>87-07</td>
<td></td>
<td>8200356</td>
<td>Shaft, 17 tooth spline, 12/24 (SB-1996-018)</td>
<td>1</td>
</tr>
<tr>
<td>T2</td>
<td>L100</td>
<td>87-02</td>
<td></td>
<td>8200357</td>
<td>Shaft, tapered (SB-1996-018)</td>
<td>1</td>
</tr>
<tr>
<td>L61</td>
<td></td>
<td>87-02</td>
<td></td>
<td>9004600-1230</td>
<td>Cotter pin</td>
<td>1</td>
</tr>
<tr>
<td>L80</td>
<td></td>
<td>87-02</td>
<td></td>
<td>047878 (9003310-3724)</td>
<td>Woodruff key, .373 x 1.5</td>
<td>1</td>
</tr>
<tr>
<td>L90</td>
<td></td>
<td>87-02</td>
<td></td>
<td>5000606</td>
<td>Slotted nut</td>
<td>1</td>
</tr>
</tbody>
</table>

# OVERHAUL SEAL KIT

<table>
<thead>
<tr>
<th>Order Code</th>
<th>Item</th>
<th>Date Begin</th>
<th>Date End</th>
<th>Part Number</th>
<th>Part Name</th>
<th>Qty. per Model/Kit</th>
</tr>
</thead>
<tbody>
<tr>
<td>G30</td>
<td></td>
<td>87-07</td>
<td></td>
<td>8200511</td>
<td>End cap gasket (SB-2001-011)</td>
<td>1</td>
</tr>
<tr>
<td>H50A</td>
<td></td>
<td>87-07</td>
<td></td>
<td>085043 (9004201-3700)</td>
<td>O-ring</td>
<td>2</td>
</tr>
<tr>
<td>K50</td>
<td></td>
<td>89-44</td>
<td></td>
<td>001149 (9004201-6200)</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td>L40</td>
<td></td>
<td>87-07</td>
<td></td>
<td>9008000-0114</td>
<td>Lip seal</td>
<td>1</td>
</tr>
<tr>
<td>L50</td>
<td></td>
<td>87-07</td>
<td></td>
<td>327627 (9004104-1540)</td>
<td>O-ring</td>
<td>1</td>
</tr>
</tbody>
</table>
A product change has occurred on Series 90 75 cc and 100 cc fixed displacement motors. The dowel pins (item G25) have increased in diameter from 1/4” to 3/8”. With this change, the dowel pin hole diameters in the end cap (item G047 or G048), housing (item B10), and the valve plate (item C80) have also changed. In addition, the thrust plate (item D50) in the 100 cc fixed displacement motor has also changed to fit the new housing.

This change creates spare parts non-interchangeability among all of the above mentioned parts. All of the affected parts remain available for the repair of any vintage Series 90 fixed motor. Refer to the date code portion of the serial number on the name plate of the motor being repaired when ordering parts.

**MODELS AFFECTED**

All 95-3xxx (75 cc) and 96-3xxx (100cc) series 90 fixed displacement motors

**SERIAL NUMBERS**

Series 90 75 cc fixed motors, 95-3xxx, changed at serial number A-88-43-xxxxx.

Series 90 100 cc fixed motors, 96-3xxx, changed at serial number A-88-23-xxxxx.

**PART NUMBERS AFFECTED**

<table>
<thead>
<tr>
<th>Item*</th>
<th>Qty/ Motor</th>
<th>75 cc Prior to 88-43</th>
<th>75 cc From 88-43</th>
<th>100 cc Prior to 88-23</th>
<th>100 cc From 88-23</th>
</tr>
</thead>
<tbody>
<tr>
<td>G047</td>
<td>1</td>
<td>8100233</td>
<td>8100306</td>
<td>8200123</td>
<td>8200152</td>
</tr>
<tr>
<td>G048</td>
<td>1</td>
<td>8100232</td>
<td>8100279</td>
<td>8200122</td>
<td>8200151</td>
</tr>
<tr>
<td>C80</td>
<td>1</td>
<td>8100095</td>
<td>8100278</td>
<td>8200103</td>
<td>8200134</td>
</tr>
<tr>
<td>D50</td>
<td>1</td>
<td>No Change</td>
<td>No Change</td>
<td>8200014</td>
<td>8200167</td>
</tr>
<tr>
<td>G25</td>
<td>2</td>
<td>9004800-2512</td>
<td>9004800-3708</td>
<td>9004800-3116</td>
<td>9004800-3708</td>
</tr>
<tr>
<td>B10</td>
<td>1</td>
<td>8100252</td>
<td>8100465</td>
<td>8200099</td>
<td>333641</td>
</tr>
</tbody>
</table>

**PARTS DISPOSITION**

- Non-interchangeable
PRODUCTS AFFECTED
Series 90 pumps and motors

SUBJECT
Piston improvement

DESCRIPTION
Product Information Bulletin PIB-8801 (March, 1988) announced the incorporation of fabricated (welded) piston assemblies, replacing non-fabricated (hollow) piston assemblies, in the cylinder blocks of all Series 90 pumps and motors. This change increases the overall efficiency of the Series 90 product line.

To simplify service parts inventory for all Series 90 units, only individual welded piston assemblies will be available as spare parts. The hollow pistons will be obsoleted. Part numbers for individual welded piston assemblies are listed in this bulletin.

Since all Series 90 pumps and motors have nine (9) pistons, welded pistons being used to replace hollow pistons during repair MUST be install in the cylinder block symmetrically, in multiples of three (3).

MODELS AFFECTED
All series 90 pumps and motors: 93-xxxx, 94-xxxx, 95-xxxx, and 96-xxxx pumps

SERIAL NUMBERS
Welded pistons will be incorporated into all series 90 pumps and motors by the end of the first quarter of 1998.

PART NUMBERS AFFECTED

<table>
<thead>
<tr>
<th>Part number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>706101</td>
<td>Piston assembly, welded - 42 cc</td>
</tr>
<tr>
<td>367672</td>
<td>Piston assembly, welded - 55 cc</td>
</tr>
<tr>
<td>708230</td>
<td>Piston assembly, welded - 75 cc</td>
</tr>
<tr>
<td>364000</td>
<td>Piston assembly, welded - 100 cc</td>
</tr>
</tbody>
</table>

PARTS DISPOSITION
- Interchangeable

When replacing hollow pistons with welded pistons, it is mandatory that the welded pistons be incorporated symmetrically in multiples of three.
Series 90 fixed displacement motors

Incorporation of adjustable charge relief valve

As a product improvement, Sauer-Danfoss is incorporating an externally adjustable charge relief valve on all series 90 fixed displacement motors. This design replaces the previous shimmed relief valve. The new design valve provides a range of pressure adjustment from 10 to 32 bar.

The diameter of the loop flushing shuttle spool increases from .25" (6.35mm) to .375" (9.53mm) at the same incorporation date as the charge relief valve change.

This is a non-interchangeable change. Adjustable style charge relief valves can not be added to motors manufactured before this incorporation date. Old style end caps, which house the charge relief and loop flushing valves, will not be available as service parts. If new end caps are required, new style charge relief and loop flushing parts must also be installed.

Charge relief valve adjustment procedures can be found in the Series 90 Service Manual (BLN-9947 Rev.B). Charge pressure increases/decreases at the rate of 78 psi (5.4 bar) per turn clockwise/counterclockwise.

The new style charge relief plug protrudes from the motor end cap approximately .63" (16mm) farther than the shimmed design. New dimensions from the center line to the top of the charge relief valve plug are shown below.

<table>
<thead>
<tr>
<th>Size</th>
<th>Non-adjustable</th>
<th>Adjustable (New)</th>
</tr>
</thead>
<tbody>
<tr>
<td>55 cc</td>
<td>3.24&quot; (82.3mm)</td>
<td>3.87&quot; (98.3mm)</td>
</tr>
<tr>
<td>75 cc</td>
<td>3.50&quot; (88.9mm)</td>
<td>4.13&quot; (105mm)</td>
</tr>
<tr>
<td>100cc</td>
<td>3.64&quot; (92.5mm)</td>
<td>4.27&quot; (108.5mm)</td>
</tr>
</tbody>
</table>
Series 90 100 cc Axial Piston Motor
Parts Manual
Service Bulletin: SB-1989-020

MODELS AFFECTED
All 94-3xxx, 95-3xxx, and 96-3xxx fixed displacement motors

SERIAL NUMBERS AFFECTED
All 55 cc motors (94-3xxx) will change at s/n A-89-38-xxxxx
All 75 cc motors (95-3xxx) will change at s/n A-89-44-xxxxx
All 100 cc motors (96-3xxx) will change at s/n A-90-20-xxxxx

PART NUMBERS AFFECTED
Charge relief and loop flushing hardware for old vintage motors can be found in the Series 90 Parts Manual (520L0890). The new part numbers are as follows:

<table>
<thead>
<tr>
<th>Item</th>
<th>Part number</th>
<th>Description</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>K90</td>
<td>9003575-0101</td>
<td>Nut</td>
<td>1</td>
</tr>
<tr>
<td>K10</td>
<td>8800488-1000</td>
<td>Plug assembly</td>
<td>1</td>
</tr>
<tr>
<td>K50</td>
<td>9004201-6200</td>
<td>O-ring</td>
<td>1</td>
</tr>
<tr>
<td>K70</td>
<td>8800476</td>
<td>Spring</td>
<td>1</td>
</tr>
<tr>
<td>K80</td>
<td>8800449</td>
<td>Poppet</td>
<td>1</td>
</tr>
<tr>
<td>K000</td>
<td>9005100-8700</td>
<td>Plug assembly</td>
<td>1</td>
</tr>
<tr>
<td>H10W</td>
<td>8800550</td>
<td>Shuttle valve spool</td>
<td>1</td>
</tr>
<tr>
<td>H20W</td>
<td>8800551</td>
<td>Washer</td>
<td>2</td>
</tr>
<tr>
<td>H30W</td>
<td>364950</td>
<td>Spring</td>
<td>2</td>
</tr>
<tr>
<td>H40W</td>
<td>9004201-3700</td>
<td>O-ring</td>
<td>2</td>
</tr>
<tr>
<td>H50W</td>
<td>9005475-0097</td>
<td>Plug assembly</td>
<td>2</td>
</tr>
<tr>
<td>H10N</td>
<td>8800552</td>
<td>Loop flushing spool, defeated</td>
<td>1</td>
</tr>
</tbody>
</table>

New end caps

<table>
<thead>
<tr>
<th>Part number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>8000196</td>
<td>Twin port - 55 cc</td>
</tr>
<tr>
<td>8000197</td>
<td>Axial port - 55 cc</td>
</tr>
<tr>
<td>8100373</td>
<td>Twin port - 75 cc</td>
</tr>
<tr>
<td>8100374</td>
<td>Axial port - 75 cc</td>
</tr>
<tr>
<td>8200188</td>
<td>Twin port - 100 cc</td>
</tr>
<tr>
<td>8200189</td>
<td>Axial port - 100 cc</td>
</tr>
</tbody>
</table>

Non-interchangeable parts disposition

520L0894 • Rev AA • January 2007
Series 90 100 cc Axial Piston Motor
Parts Manual
Service Bulletin: SB-1996-018

PRODUCTS AFFECTED  
Series 90 55 - 100 cc fixed and variable motors

SUBJECT  
Motor shaft change

DESCRIPTION  
As a product improvement, Sauer-Danfoss is changing the design of the output shaft used in 55 thru 100 cc fixed and variable motors.

The surface finish for the rear shaft bearing has been improved.

The new style shaft can be used in place of the old style shaft. The old style shafts are obsolete and no longer available as a service part.

MODELS AFFECTED  
All 943xxx, 944xxxx, 953xxxx, 954xxxx, and 963xxxx motors

SERIAL NUMBERS  
This change became effective at serial number A-97-02-xxxxx and beyond

PART NUMBERS AFFECTED

<table>
<thead>
<tr>
<th>55 cc Motors</th>
<th>75 cc Motors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shaft Old New</td>
<td>Shaft Old New</td>
</tr>
<tr>
<td>code/type p/n p/n</td>
<td>code/type p/n p/n</td>
</tr>
<tr>
<td>‘C6’/mf 8000122 8000501</td>
<td>‘C6’/mf 8100304 8100595</td>
</tr>
<tr>
<td>“K1”/mf 8000176 8000502</td>
<td>“C7”/mf 8100257 8100596</td>
</tr>
<tr>
<td>“S1”/mf 8000113 8000503</td>
<td>“K2”/mf 8100309 8100597</td>
</tr>
<tr>
<td>“S1”/mv 8000226 8000505</td>
<td>“K2”/mv 8100584 8100601</td>
</tr>
<tr>
<td>“S7”/mv 8000238 8000506</td>
<td>“S1”/mf 8100256 8100598</td>
</tr>
<tr>
<td>“T1”/mf 8000209 8000504</td>
<td>“S1”/mv 8100396 8100604</td>
</tr>
<tr>
<td>100 cc Motors</td>
<td></td>
</tr>
<tr>
<td>code/type p/n p/n</td>
<td>Shaft Old New</td>
</tr>
<tr>
<td>code/type p/n p/n</td>
<td>code/type p/n p/n</td>
</tr>
<tr>
<td>‘C7’/mf 8200111 8200351</td>
<td>“S3”/mf 8100239 8100599</td>
</tr>
<tr>
<td>“F1”/mf 8200109 8200352</td>
<td>“S7”/mv 8100445 8100602</td>
</tr>
<tr>
<td>“F2”/mf 8200204 8200353</td>
<td>“T2”/mf 8100415 8100600</td>
</tr>
<tr>
<td>“K3”/mf 8200165 8200354</td>
<td></td>
</tr>
<tr>
<td>“S1”/mf 8200206 8200358</td>
<td></td>
</tr>
<tr>
<td>“S3”/mf 8200110 8200355</td>
<td></td>
</tr>
<tr>
<td>“S5”/mf 8200311 8200356</td>
<td></td>
</tr>
<tr>
<td>“T2”/mf 8200201 8200357</td>
<td></td>
</tr>
</tbody>
</table>

PARTS DISPOSITION  
Interchangeable
Series 90 100 cc Axial Piston Motor
Parts Manual
Service Bulletin: SB-1998-007

PRODUCTS AFFECTED
Series 90 55cc, 75cc, and 100cc fixed displacement motors, and 55cc and 75cc variable displacement motors

SUBJECT
Charge relief seat

DESCRIPTION
Sauer-Danfoss has initiated a change to the end caps used on series 90 55cc, 75cc, and 100cc fixed displacement motors, and the series 90 55cc and 75cc variable displacement motors.

Currently, the end caps used on these motors contain a pressed in insert, which serves as a seat for the charge pressure relief valve assembly. The insert was originally introduced to provide a suitable wear surface for the charge pressure relief valve poppet.

Since the original design, a number of changes to the charge pressure relief valve design have reduced the severity of the wear characteristics between the poppet and relief seat. These changes have now made it possible to remove the insert from the end cap assembly. The design of the motor end cap has been modified in a manner that allows the charge relief poppet to seat directly against the casting machined surface.

The removal of the insert was initially introduced with the series 90 130cc motors in 1995, and with this change a more uniform product family is achieved.

To aid in identifying and tracking this change, Sauer-Danfoss has released new end cap part numbers. The new end cap is directly interchangeable with the previous end cap and with adjustable charge pressure relief valve components. The previous end cap part numbers will no longer be available as service parts. Page 2 of this bulletin provides part number cross-reference information.
**MODELS AFFECTED**

All 94-3xxx, 943xxxx, 95-3xxx, 953xxxx, 96-3xxx, and 963xxxx fixed displacement motors
All 94-4xxx, 944xxxx, 95-4xxx, 954xxxx variable displacement motors

**SERIAL NUMBERS AFFECTED**

Change became effective with s/n A-98-34-xxxxx and beyond

**PART NUMBERS AFFECTED**

<table>
<thead>
<tr>
<th>Motor type</th>
<th>Displacement</th>
<th>Order code</th>
<th>Porting</th>
<th>Split flange thread</th>
<th>Prior to 98-34</th>
<th>Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed</td>
<td>55 cc</td>
<td>D</td>
<td>Twin</td>
<td>Metric</td>
<td>8000417</td>
<td>8000593</td>
</tr>
<tr>
<td>Fixed</td>
<td>55 cc</td>
<td>1 &amp; 8</td>
<td>Twin</td>
<td>English</td>
<td>8000196</td>
<td>8000594</td>
</tr>
<tr>
<td>Fixed</td>
<td>55 cc</td>
<td>3 &amp; 7</td>
<td>Axial</td>
<td>English</td>
<td>8000197</td>
<td>8000596</td>
</tr>
<tr>
<td>Variable</td>
<td>55 cc</td>
<td>R</td>
<td>Twin</td>
<td>Metric</td>
<td>8000356</td>
<td>8000598</td>
</tr>
<tr>
<td>Variable</td>
<td>55 cc</td>
<td>1 &amp; 8</td>
<td>Twin</td>
<td>English</td>
<td>8000335</td>
<td>8000599</td>
</tr>
<tr>
<td>Fixed</td>
<td>75 cc</td>
<td>D</td>
<td>Twin</td>
<td>Metric</td>
<td>8100576</td>
<td>8100731</td>
</tr>
<tr>
<td>Fixed</td>
<td>75 cc</td>
<td>1 &amp; 8</td>
<td>Twin</td>
<td>English</td>
<td>8100373</td>
<td>8100733</td>
</tr>
<tr>
<td>Fixed</td>
<td>75 cc</td>
<td>3 &amp; 7</td>
<td>Axial</td>
<td>English</td>
<td>8100374</td>
<td>8100734</td>
</tr>
<tr>
<td>Variable</td>
<td>75 cc</td>
<td>1 &amp; 8</td>
<td>Twin</td>
<td>English</td>
<td>8100442</td>
<td>8100737</td>
</tr>
<tr>
<td>Fixed</td>
<td>100 cc</td>
<td>E</td>
<td>Twin</td>
<td>English</td>
<td>8200319</td>
<td>8200407</td>
</tr>
<tr>
<td>Fixed</td>
<td>100 cc</td>
<td>1 &amp; 8</td>
<td>Twin</td>
<td>English</td>
<td>8200188</td>
<td>8200408</td>
</tr>
<tr>
<td>Fixed</td>
<td>100 cc</td>
<td>3 &amp; 7</td>
<td>Axial</td>
<td>English</td>
<td>8200189</td>
<td>8200409</td>
</tr>
</tbody>
</table>

**PARTS DISPOSITION**

- Interchangeable
Sauer-Danfoss has introduced a design change to the motor housings used on all series 90 100cc fixed displacement motors. The housing strength has been increased in the area of the casting ribs, by increasing the size of the rib. This change will reduce the potential for cracking the rib of the housing when tightening the two shorter end cap bolts.

To assist in identifying this change, Sauer-Danfoss has released a new housing part number. The new housing is completely interchangeable with the previous housing. The previous housing has been obsoleted and is no longer available.

**MODELS AFFECTED**

All 96-3xxx, and 963xxxx fixed displacement motors.

**SERIAL NUMBERS**

Sauer-Danfoss Ames Production - Effective on motor serial number A-99-44-xxxxx
Sauer-Danfoss Neumunster Production - Effective on motor serial number N-99-45-xxxxx.
Sauer-Danfoss Shanghai Production- effective during the fourth quarter of 2000.

**PART NUMBERS AFFECTED**

<table>
<thead>
<tr>
<th>Description</th>
<th>Previous Housing</th>
<th>New Housing</th>
</tr>
</thead>
<tbody>
<tr>
<td>motor housing - MF</td>
<td>8200230</td>
<td>8200447</td>
</tr>
</tbody>
</table>

**PARTS DISPOSITION**

Interchangeable
Series 90 100 cc Axial Piston Motor
Parts Manual
Service Bulletin: SB-2000-047

PRODUCTS AFFECTED
Series 90 42cc, 55cc, 75cc, and 100cc fixed displacement motors, and 55cc and 75cc variable displacement motors

SUBJECT
Loop flushing spring and spring seat change

DESCRIPTION
As a product improvement, Sauer-Danfoss has changed the design of the spring and spring seat for the series 90 42cc, 55cc, 75cc, and 100cc fixed and variable displacement motors. The old design used a separate spring and spring seat. The new design incorporates the two parts into a one piece assembly. This makes the assembly of the spring and spring seat onto the spool much easier than the previous design.

Since the new spring assembly has a high spring rate than the previous spring, this is an interchangeable change only if both springs and spring seats are replaced at the same time. Sauer-Danfoss has issued a new part number for the spring assembly. The previous spring seat and spring remain valid service parts since they are used on other Sauer-Danfoss products.

MODELS AFFECTED
All 93-3xxx, 933xxxx, 94-3xxx, 943xxxx, 95-3xxx, 953xxxx, 96-3xxx, and 963xxxx fixed displacement motors with loop flushing options of A, B, or C.

All 94-4xxx, 944xxxx, 95-4xxx, and 954xxxx variable displacement motors with loop flushing options of A, B, or C.

SERIAL NUMBERS
Sauer-Danfoss Ames, la production - Change effective at s/n A-02-03-xxxxx.

Sauer-Danfoss Neumunster, Germany production - Change effective at s/n N-01-08-xxxxx.

PART NUMBERS AFFECTED

<table>
<thead>
<tr>
<th>Previous spring seat</th>
<th>Previous spring</th>
<th>New spring assembly</th>
</tr>
</thead>
<tbody>
<tr>
<td>8800551</td>
<td>4350286</td>
<td>513596</td>
</tr>
</tbody>
</table>

PARTS DISPOSITION
Interchangeable
**PRODUCTS AFFECTED**
Series 90 55cc, 75cc, and 100cc fixed displacement motors

**SUBJECT**
Change to end cap gasket material

**DESCRIPTION**
The end cap gasket material has changed. Sauer-Danfoss has issued new end cap gasket part numbers. The previous part numbers are obsolete. They are no longer available for service.

**MODELS AFFECTED**
All 94-3xxx, 943xxxx, 95-3xxx, 953xxxx, 96-3xxx, and 963xxxx fixed displacement motors.

**SERIAL NUMBERS**

Sauer-Danfoss Neumunster, Germany production - Change effective at s/n N-01-19-xxxxx.

**PART NUMBERS AFFECTED**

<table>
<thead>
<tr>
<th>Frame size</th>
<th>Mounting flange (end cap porting)</th>
<th>Previous end cap gasket</th>
<th>New end cap gasket</th>
</tr>
</thead>
<tbody>
<tr>
<td>55 cc</td>
<td>SAE (all), cartridge (axial)</td>
<td>8000167</td>
<td>8000721</td>
</tr>
<tr>
<td>55 cc</td>
<td>Cartridge (twin)</td>
<td>8000603</td>
<td>8000720</td>
</tr>
<tr>
<td>75 cc</td>
<td>SAE (all), cartridge (axial)</td>
<td>8100311</td>
<td>8100875</td>
</tr>
<tr>
<td>75 cc</td>
<td>Cartridge (twin)</td>
<td>8100749</td>
<td>8100874</td>
</tr>
<tr>
<td>100 cc</td>
<td>Sae (all)</td>
<td>8200102</td>
<td>8200511</td>
</tr>
</tbody>
</table>

This change also affects these service kits: 80030S030, 81030S30, and 82030S30

**PARTS DISPOSITION**
Interchangeable
PRODUCTS AFFECTED
Series 90 55cc pumps and motors, and 75 - 100 cc motors

SUBJECT
Consolidation of valve plate part numbers

DESCRIPTION
Sauer-Danfoss has consolidated the part numbers for some of the series 90 pump and motor valve plates. Our plant in Germany has been producing the valve plates for series 90 pumps and motors since August 7, 2001. The U.S. plant has its part number for these valve plates as the German plant has its part number. The U.S. plant will now use the German part number. This obsoletes the U.S. part numbers. Since the parts are the same, the part number are interchangeable.

MODELS AFFECTED
All series 90 75 cc pumps and motors, 75 cc motors, and 100 cc motors.

SERIAL NUMBERS
This change became effective at s/n A-02-46-xxxx.

PART NUMBERS AFFECTED

<table>
<thead>
<tr>
<th>Description</th>
<th>Old part number</th>
<th>New part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valve plate, 75 cc pump</td>
<td>8000071</td>
<td>314427</td>
</tr>
<tr>
<td>Valve plate, 75 cc motor</td>
<td>8000132</td>
<td>329748</td>
</tr>
<tr>
<td>Valve plate, 75 cc motor</td>
<td>8100278</td>
<td>323766</td>
</tr>
<tr>
<td>Valve plate, 100 cc motor</td>
<td>8200134</td>
<td>324137</td>
</tr>
</tbody>
</table>

PARTS DISPOSITION
Non-interchangeable
Sauer-Danfoss has changed the housing used in series 90 100 cc fixed motors. Material was added at the area of the two shorter end cap mounting screws (G95). The hole for these screws is now deeper to accept the longer screw (G90) that is used for the other four large end cap mounting screws. The six larger screws will have the same stretch and therefore the same clamping force for the gasket sealing area. The smaller end cap mounting screw (G96) remains the same. The “old” housing and the short screws will become obsolete and no longer available for service.
SERVICE BULLETIN: SB-2005-005

Series 90 100 cc Axial Piston Motor
Parts Manual

PRODUCTS AFFECTED
Series 90 100 cc fixed displacement motors

SUBJECT
Cylinder block change

DESCRIPTION
As a product improvement, Sauer Danfoss has added a special process to the spline area of the cylinder block used in series 90, 100 cc fixed displacement motors. Three identification grooves will be added to these blocks to indicate this change. All other dimensions of the cylinder block remain the same.

Production built variable pumps will still use the standard cylinder blocks, however cylinder block assembly service kits will contain the “special process” cylinder block, whether they will be used in pumps or motors.

MODELS AFFECTED
Series 90 100 cc fixed displacement motors.

SERIAL NUMBERS
This change became effective at serial number A-05-41-xxxx.

PART NUMBERS AFFECTED

<table>
<thead>
<tr>
<th>Old p/n</th>
<th>New p/n</th>
</tr>
</thead>
<tbody>
<tr>
<td>8200124</td>
<td>8200570</td>
</tr>
<tr>
<td>82020505</td>
<td>8510368</td>
</tr>
<tr>
<td>82030505</td>
<td>8510369</td>
</tr>
<tr>
<td>82030507</td>
<td>8510370</td>
</tr>
<tr>
<td>8510086</td>
<td>8510371</td>
</tr>
<tr>
<td>82020507</td>
<td>8510372</td>
</tr>
<tr>
<td>8200277</td>
<td>8200574</td>
</tr>
</tbody>
</table>

PARTS DISPOSITION
Interchangeable
SERIES 90 100 cc AXIAL PISTON MOTOR
PARTS MANUAL
SERVICE BULLETIN: SB-2005-013

PRODUCTS AFFECTED
Series 90 55 and 100 cc fixed displacement motors

SUBJECT
Shaft material change

DESCRIPTION
As a product improvement, Sauer-Danfoss has changed to a different material on some series 90 fixed motor shafts. The 23 and 13 tooth spline shafts in 100 cc motors, and the 21 tooth spline shaft in 55 cc motors have changed. The part number of the shafts will be changed for tracking purposes. The new shafts are interchangeable with the old. The old shaft part numbers will become obsolete and no longer available for service.

MODELS AFFECTED
Series 90 55 and 100 cc fixed displacement motors.

SERIAL NUMBERS
This change became effective at serial number A-06-06-xxxxx & S-05-49-xxxxx for 23 tooth spline (100 cc)
This change became effective at serial number A-05-41-46568 & S-05-41-xxxxx for 13 tooth spline (100 cc)
This change became effective at serial number A-06-06-xxxxx & S-05-49-xxxxx for 21 tooth spline (55 cc)

PART NUMBERS AFFECTED
From 8200352 to 8200597 for 13 tooth spline (100 cc)
From 8200351 to 8200591 for 23 tooth spline (100 cc)
From 8000501 to 8000825 for 21 tooth spline (55 cc)

PARTS DISPOSITION
Interchangeable
Sauer-Danfoss is a comprehensive supplier providing complete systems to the global mobile market.

Sauer-Danfoss serves markets such as agriculture, construction, road building, material handling, municipal, forestry, turf care, and many others.

We offer our customers optimum solutions for their needs and develop new products and systems in close cooperation and partnership with them.

Sauer-Danfoss specializes in integrating a full range of system components to provide vehicle designers with the most advanced total system design.

Sauer-Danfoss provides comprehensive worldwide service for its products through an extensive network of Global Service Partners strategically located in all parts of the world.

Local address:

<table>
<thead>
<tr>
<th>Sauer-Danfoss (US) Company</th>
<th>Sauer-Danfoss ApS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2800 East 13th Street</td>
<td>DK-6430 Nordborg, Denmark</td>
</tr>
<tr>
<td>Ames, IA 50010, USA</td>
<td>Phone: +45 7488 4444</td>
</tr>
<tr>
<td>Phone: +1 515 239-6000</td>
<td>Fax: +45 7488 4400</td>
</tr>
<tr>
<td>Fax: +1 515 239 6618</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sauer-Danfoss GmbH &amp; Co. OHG</th>
<th>Sauer-Danfoss-Daikin LTD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postfach 2460, D-24531 Neumünster</td>
<td>Sannomiya Grand Bldg. 8F</td>
</tr>
<tr>
<td>Krokamp 35, D-24539 Neumünster, Germany</td>
<td>2-2-21 Isogami-dori, Chuo-ku</td>
</tr>
<tr>
<td>Phone: +49 4321 871-0</td>
<td>Kobe, Hyogo 651-0086, Japan</td>
</tr>
<tr>
<td>Fax: +49 4321 871 122</td>
<td>Phone: +81 78 231 5001</td>
</tr>
<tr>
<td></td>
<td>Fax: +81 78 231 5004</td>
</tr>
</tbody>
</table>